

LOADSTAR LETTER #56



Philip Dunaway
Of Houston Texas
Is The Winner Of The
LOADSTAR LETTER
Wheels Sweepstakes!

Commodore Hacking Magazine #15 Online. Stephen Judd Assumes Editorial Reigns

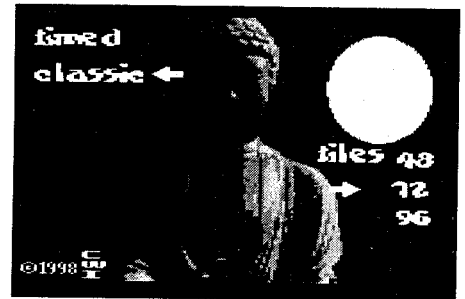
By Jeff Jones. Hacking Mag, vaporware for over a year, has re-emerged this month in perfect digital fashion. First I heard about it in Email from Robin Harbron, then Jim Brain Emailed it to me. In an open statement to his readers, Jim said, "Unless you've been offline and out of touch for the past year, you've no doubt wondered what happened to Commodore

Hacking. Many thought we had given up the ghost. Well, we are still kicking, although a lot has changed in the time since issue #14 went out. Readers deserve an explanation for our absence, but I'll try to keep it short. The Hacking Headquarters move in '96 delayed issue 13, which delayed issue 14, even though I tried unsuccessfully to meet the issue 14 October 1996 deadline. I tried to edit issue 15 in January 1997, but stopped due to a low number of technical articles. C=H received some criticism after issue 13 for its "diminishing technical content", so I wanted to make sure issue 15 didn't disappoint...."

Jim announced that the pitter-patter of little Brains would soon grace his home. He gave credit to Stephen Judd, Guru at large, for encouraging him to release this latest Hacking Magazine. Jim promises, "It's safe to say I have more than a few CBM projects in progress, Commodore Hacking being just one... have been warned that chaos will rule starting in August. So, it's time to make some changes. The delay for this issue is unacceptable to me, even considering my explanation, and I do not wish to *kill* the publication; I took over editorship expressly to continue this fine journal. With this issue, it is with bittersweet feelings that I formally turn the editorial office over to Stephen Judd. I am convinced that Steve can take this publication into new territory and satisfy even the most discerning of technical reader. I regret that I can no longer provide this publication with the attention it deserves, but I find happiness in returning as a reader and "sometimes" article writer..." Look for C=Hacking on Star Extra #5.

Mah-Jongg Special Edition

From Cameron Kaiser's Webpage. Now the classic combination of solitaire and Mah-Jongg returns with a whole new lease on life. Mah-Jongg Special Edition is Cameron's upgrade to his 1993 smash hit. Match tiles and clear the board -- play against the clock or in our classic solitaire mode, all to a sumptuous Oriental soundtrack and great graphics. Curious LOADSTAR readers can check out our version of Mah-Jongg by Bob Cook, published on issue #120.



Can you meet the challenge of the Dragon? Mah-Jongg Special Edition fully supports the SuperCPU and the 128's 2-MHz mode, and works in both PAL and NTSC.

Play in the classic mode, with no clock or score, or meet the challenge of the dragon in the new timed mode. All puzzles are 100% solvable.

Enclose a check or money order for \$15 plus \$2.00 shipping to "Cameron Kaiser" and information about the titles you are ordering, and send it to:

Computer Workshops
3612 Birdie Drive
La Mesa, CA 91941-8044



For electronic delivery, mail \$15 (no shipping required) and a valid Email address. C64/128 electronic orders are sent normally in the self-extracting SPY format. Cameron will also ship orders in zipped .d64 on request. If you prefer a different format, please request it, although for technical reasons every desired format may not be accommodated. MS-DOS/Win95 orders are sent in PKZIP 2.0+ format.

Centipede Lite BBS Software Available

By Jeff Jones. The new Centipede BBS software is for sale, and if you want to try before you buy, head down to <http://www.bugsoftware.com/>

Centipede Lite is a freeware version of the popular Centipede BBS program.

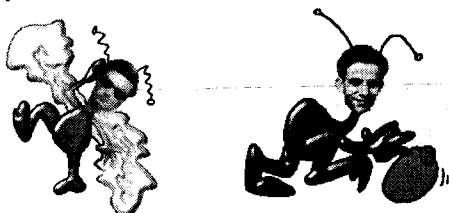
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Fax: 318/221-8870
BBS: 318/425-4382

This means that you may use it free of charge for as long as you like. It's *not* the complete Centipede BBS software, but rather a functional subset of the full version that will work fine for small BBSs, and give you an idea of what the full version can do.

Bugsoft and the author of Centipede can be contacted by phone! One line of the author's BBS now has a switching device that can ring a voice phone instead of the BBS. There will be no answer if he is not around his computers at the moment. Please keep in mind any time difference! The author is located in California. E-mail is still the most reliable way to get in contact, but if you wish to chat, follow this procedure: Call 1-714-952-2696. When the switch picks up (you'll hear a *click*), immediately press the 9 button on your touch-tone phone. If you don't get it right, the modem will answer. *Watch your ears!* If the author is available, he will answer within a few rings. Otherwise, the switch will hang up on you. Email adamf@acm.org.



The bugsoft guys

BUGSOFT

Commodore Country Has Over 3000 Commodore Software Titles

By Jeff Jones. A LOADSTAR subscriber called me and mentioned that he had purchased a ton of stuff from Commodore Country. For years I have heard good things about Commodore Country, but honestly I failed to ever mention them. I visited their website at <http://www.fastlane.net/homepages/ccountry/>

When I stopped in I saw a listing of over 3000 Commodore titles and a slew of hardware. Commodore Country sells hardware and software for the

Commodore and Amiga line of computers. They carry a full line of hardware, software, accessories and magazines - both new and used - including European items and CD-ROMs. They have a flat repair rate that includes most parts and labor. Contact them for more details. You might even be able to trade in your unwanted items.

Commodore country sells a complete Commodore system including a C-64 computer, disk drive, software and accessories for an everyday low price of \$99.95. C-128s sell for \$89.95. 1571 Disk drives sell for \$89.95. E-mail to: ccountry@fastlane.net

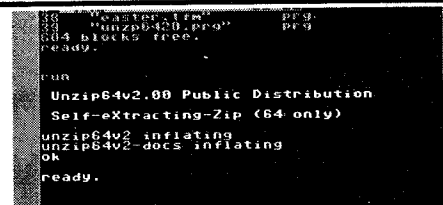
Commodore Country
1420 Country Rd. 914
Burleson, TX 76028
Voice: 817-295-7658
Fax: 817-447-6974

Unzip64v2.00 'Inflate' Review

By Robin Harbron. A few months ago, a beta version of an exciting new C64 utility began to circulate around on the Internet and elsewhere. It was hard to believe, but a working unzip program had been made! On April 6, 1998, the official first release was announced on comp.sys.cbm, and I was able to try it out right away.

A bit of background, from Errol Smith / Strobe, the author of Unzip64v2.00 - 'Inflate': Unzip64v2.00 is a decompressor compatible with files created by PKZIP v2.04g & equivalent programs. It will decompress deflated (method 8) or stored (method 0) files on a stock Commodore 64 (or C-128 in 64 mode).

Says Errol, "I started this project primarily because I was interested in learning compression theory. Also there has always been demand for a program such as this. An unzip program already exists for the C-64 & C-128, but it is only compatible with PKZIP v1.10 or earlier. Most everyone I've seen discussing the topic has said that an inflate routine would be impossible on a C-64 (or even a 128) without RAM expansion and/or a SuperCPU or similar. At this point in time, the program uses less than 40k of memory in total. The inflate code alone is approximately 2.5k (!), with most of memory taken up by the 32k sliding



When you run unzip6420.prg, it extracts itself to the current drive, along with the docs. The self extraction process is not an option for users.

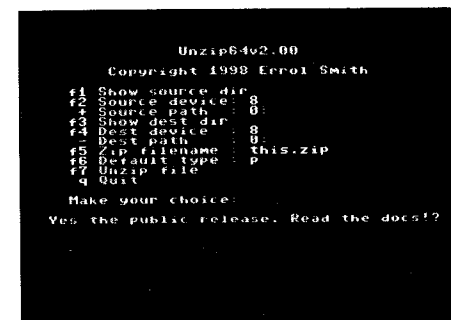
window used in decompression."

Errol's program is full of modern features, such as full CMD support (SuperCPU, RAMLink, HD/FD etc.), CMD path support. Note that it does not unzip zip1.xx files - David Schmolls' unzip128/64 program is recommended for those style files.

The main need for a program to unzip zip2.04g files has sprung from the numerous C64 files stored in this format on the Internet. C64 users long have bemoaned the fact that there are C64 programs on the Internet that they can't access with their C-64s! The .zip format is extremely popular on the Windows and DOS platforms, so it is common for emulator users on these platforms to compress C64 disk images (.d64 files) down from 170K files to 100K or smaller using zip2.04g.

The official release file is called UNZIP6420.PRG, and it can be obtained from Errol Smith's web site, <http://www.ros.com.au/~errol/64.html>. I ran this program on my C64, and it quickly produced two additional files, a 21 block PRG file named UNZIP64V2, and a 34-block SEQ file called unzip64v2-docs.

Eager to try this program out, I put together 3 test files on my Windows 95 machine, and then transferred them over to my C64. The test files were SONGS.ZIP - 5,659 bytes, 23 blocks, containing 2 song files: "ancient.dat" (18 blocks) and "ancient stories.sid" (19 blocks) - I included the very long filename version of the file to see what would happen on the C64 with the 16



The Unzip64 main menu

character filename limit. LS148S2.ZIP - 117KB, 468 blocks, containing 1 file: "ls148s2.d64", 174KB. This is side 2 of LOADSTAR #148, which is available (legally) on the Internet in .d64 format - a disk image file which is usable by emulators. I included this file since I wanted to see how unzip64v2.00 would handle very large single files. DAGLISH.ZIP - 247KB, 999 blocks, containing 75 fairly small song files by the famous C64 musician Ben Daglish. I included this to see how the unzip program would handle many files.

I ran UNZIP64V2, and was presented with a simple text menu screen. All the various commands are issued using the function keys. F1 and F3 to set the source and destination drives and paths, F5 to enter the filename of the file to unzip (no menu driven directory, unfortunately, but that's minor in my opinion), and F7 to begin the unzip.

I typed in my first test file name, SONGS.ZIP, and it displayed the first file name in the .zip file, ancient.dat, along with a prompt, to which I answered 'a' for 'all'. It unzipped that file, and the following one automatically - and took a total of 13.45 seconds for 37 blocks, on my SuperCPU v1 and FD-2000 drive. I switched down to 1 MHz mode, and unzipped the files again - 35.36 seconds, which is still quite impressive (of course, JiffyDOS and the FD-2000 were still being used). The long file name "ancient stories.sid" was shortened to "ancient<-stories." - no problem there.

While unzipping the file, the border flashes between black and gray as the program reads the .zip file in, and goes a solid green as it writes data back out. A small file may only go through this cycle once, while large .zip files may go through these two stages several times.

I then tried the monstrous LS148S2.ZIP file, which it unzipped in 2 minutes 10 seconds at 20 MHz, and in 10 minutes 15 seconds at 1 MHz.

DAGLISH.ZIP at 999 blocks was no problem either, although it took considerably longer, presumably because of the extra 1 MHz disk overhead associated with writing 75 separate output files. It took approximately 10 minutes at 20 MHz.

One strange thing happens sometimes after exiting the program -

the next time you do a directory, a number (1.03881787 is the one I saw) is printed out at the beginning of the directory. This is mentioned in the documentation - it only seems to happen once, and then goes away until the next time the program is run. A nice feature of the program is the ability to quit the program, do some directory/file work, and then just type "RUN" again, and be right back into the program - no need to reload, which is very rare for ML programs in my experience.

This is a fantastic program - efficient and reliable, and it will prove to be very useful for anyone obtaining files over the Internet. The program is freely distributable, but the author does ask for at least an appreciative letter if you use his program, if not \$10 for his (in my opinion) excellent work.

Contact Information: The latest news & updates of unzip64v2 can be found on my 64 web page at:

<http://www.ros.com.au/~errol/64.html>

Internet e-mail: errol@ros.com.au

Snail Mail:

Errol Smith

PO Box 119

Round Corner NSW 2158 Australia

An Interview With Errol Smith

By Jeff Jones. I was so impressed with unzip that I hopped in the LOADSTAR Corporate Jet and blasted straight to Australia where I had a nice chat with Errol.

Jeff: Inflate is a great program. Robin Harbron has already downloaded and reviewed it. I've used it also.

Errol: Just for correctness, the program is called "Unzip64v2". "Deflate" is the name of the compression algorithm used by PKZIP2.04g (and GZIP incidentally). To "Inflate" is to decompress "deflated" files. In other words, "inflate" is what the program does, not what it is.

Jeff: Sorry. I'd like to ask you some more personal questions about your journey with the C-64. How far back do you go with the C-64?

Errol: I've had a C-64 for over 13 years. Before that I had a VIC-20 for a couple of years, on which I started

learning BASIC. I continued when I 'upgraded' to a C-64, and eventually moved into machine language. Mostly I played with ML graphics routines, and have made several 'demos' under the handle/nickname of "Strobe". It's only recently that I've been creating utilities (aside from various personal-use ones I created when writing demos).

Jeff: You obviously also use other computer platforms as do I. Why do you still use and program the CBM?

Errol: It's a challenge basically. Making the machine do the "impossible" is always rewarding, particularly if what you do is of use to others. I also believe that being adept with machine language gives you an advantage as a programmer with higher level languages like C, so I like to 'keep up my skills' as it were.

Jeff: How many computers are in your house and does anyone in your family complain?

Errol: Probably a dozen or so, but not all of them are mine as my father is a self-employed programmer/analyst, so nobody complains.

Jeff: What's your favorite program?

The Action Replay mk6! Software wise, Novaterm is an exceptional program, and I'd probably be lost without Turbo/Macro Assembler.

Jeff: Could you elaborate on what makes these products great?

Errol: The AR6 is useful for dozens of reasons. For a programmer, it makes debugging a program a breeze, by allowing you to examine memory, edit code, freeze a program while it's running & examine registers/memory, plus its turbo load/save routines speed up your work, and it's compatible with my 1581 which is a bonus.

I admire Novaterm because of its complexity, and what it allows a normal C-64 to achieve, with anything from an original VIC1011A RS232 adapter (I own & use one), to the latest UART devices like the SwiftLink/turbo232. That it implements protocols like Zmodem on an 8-bit computer is an achievement in itself. I use Turbo/Macro assembler for all my programming now. Unzip64v2 was developed entirely without it. That it leaves 'low memory' free allows me to run & test programs while keeping the assembler AND source in memory. Combined with the AR6 for debugging, and you have a formidable development platform.

Jeff: You don't mention any CMD devices yet your program supports any CMD device. Many programmers forget that there are people out there with SuperCPUs and Hard drives. What made you take the extra step and offer pathname support, etc. for CMD devices?

Errorl: Several reasons, but mostly user feedback while the program was beta testing. I also wanted my program to have similar functionality to the NZP package by David Schmoll, which had 64 & 128 programs for decompressing version 1.xx zip archives. Implementing it was another issue. I don't have any CMD devices myself, so I had to leave testing up to others, and implementing it was mostly educated guesswork as I didn't have any information on how paths were used. As I only used normal kernal calls and didn't use any fancy hardware tricks, compatibility with the SuperCPU & other devices like RAMLink was easy to achieve.

Jeff: This was very conscientious. Many programmers are afraid to program for devices they don't own. The best way to support CMD devices is to simply:

- Avoid undocumented opcodes (SuperCPU)
- Never assume that the directory is in track 18 (for CMD drive and 1581 users)

Errorl: I wasn't afraid to program specifically for them, as I didn't have to really 'try'. Using standard 6502 & only using kernal calls covers most devices, CMD or otherwise. I never 'got into' undocumented opcodes, in fact I can't recall ever using them. Currently Unzip62 doesn't do any direct disk access, so compatibility is not an issue, and I generally avoid direct disk access anyway as I'm not very familiar with it.

Jeff: Your program works nicely on the SuperCPU/HD/RAMLink. I was wondering if you would go as far as setting the optimization mode (three pokes) which limits memory mirroring and allows the SuperCPU to work 22 times faster than a stock C-64.

Errorl: I have received good reports on its operation with those devices, in particular the combination of SuperCPU/RAMLink. Some have

mentioned large files decoding in 'seconds'. One day I'd like to see that in person! (-: I actually didn't know about the 'optimization mode' for the SuperCPU (someone told me yesterday by coincidence). I plan to implement it in an upcoming version, along with 2-MHz mode on a 128 in 64 mode. It will require some re-organizing of my code to implement but it's nothing serious.

My understanding of the 'three pokes' is that the screen would no longer be updated & disk access was not usable after performing them. Wouldn't this make my program useless? If not, and programs work fine with them, then why aren't they the default settings of the SuperCPU? I could have misunderstood what my friend told me of course. Please enlighten me.

Jeff: The screen is updated in all optimization modes unless you move the screen outside of the optimization area.

The SuperCPU V1 for the C-64 mode only has three optimization modes where basically it limits the amount of memory mirrored between the C-64 and the SuperCPU, which is a self-contained separate computer. The SuperCPU has its own internal 64K of memory. It mirrors (shares) this memory with the C-64 host. The less memory it has to mirror, the faster it operates because it's spending less time communicating with an external machine (your C-64). The bulk of memory that has to be mirrored is graphics memory so that the VIC chip can see it and display it.

Say if you load or poke a font into locations 8192-10240, (\$2000-\$2800), the SuperCPU will normally make sure that this (and all other memory) is also transparently poked into the C-64-resident memory. When you optimize, you tell the SuperCPU which area of memory it actually has to worry about. So it can just forget about mirroring 48K or more of memory.

The SuperCPU v2 for the 128 and C-64 has many optimization modes, and powers up (in 64 mode) with a very smart mode that makes it work much faster than version 1 unless the version 1 is specifically optimized.

Your program apparently uses the screen at \$400 with no custom font.

There is an optimization mode that mirrors only \$400-\$7ff. Your program works fine without optimization, but about three times faster after those 3 pokes. The screen updates fine.

If your program used a custom font in bank 0, there would be a problem because there would be no way for the font to be seen in a reliable way. The font might appear to work say at \$3800, but might appear to degrade. The other version 1 optimization modes for banks 1 and 2 optimize the entire bank and you can use fonts, bitmaps, etc. I haven't tested this but I imagine that the \$400-\$7ff optimization mode is faster than the other modes since it mirrors the smallest amount of memory.

Errorl: Ah, I see. The way someone made it sound to me was that it disabled ALL mirroring, which I'm sure would speed things up but it sounded like something with limited use. Only mirroring the screen at \$0400 makes sense. Yes my program doesn't do any fancy stuff with the screen. Using a font might be pretty but it takes up valuable memory that I'd rather use for the program, and there's little point putting the screen somewhere else in memory.

I have a little experimental sequential reader that uses a 33-row font (bitmapped by software of course), which would be interesting to speed up. (Especially its 80x33 mode).

Jeff: What about your plans for a deflate routine?

Errorl: Compression might be limited by available memory. Having more memory to play with could improve the compression ratio, and probably the speed of compression too (if it's physical extra memory that is). I have considered disk based virtual memory, but the speed would be very slow I believe, and the program would need to be more complex to handle it. I'm afraid I can't give any concrete statements about the memory usage. I (or someone else) will only really find out once we try.

BTW, I should have emphasized "compression *might* be limited." Don't read it as *would*. You never know...

Jeff: True, the speed would be very slow, but anyone who uses Cruel Crunch or similar programs is accustomed to walking away from their computer for minutes. I once waited almost two hours. People with SuperCPUs use the same programs and the job is done in seconds

to minutes. Likewise not all disk drives are the same speed. I've long ago left the stock 1541 behind, and would never voluntarily use one again. I would hate to see it held up as the standard that possibly kept a reliable virtual memory system away from Commodore programmers. Everyone knows that the Windows swap file is very slow on a slow system with slow hard drive and very fast on a fast system with a fast hard drive. Still, it's available to all.

Errol: Yes, well people may need to walk away from their machines while it compresses using ZIP as well, even without using the disk for extra memory. Generally, more CPU time = better compression. Any disk based virtual memory system is dependent mostly on the speed of the disk itself. RAMLink or RamDOS users will be quite happy, but I'd feel sorry for someone with a stock 1541. I suspect some walk away from Unzip64v2 as well, after hitting 'a' to extract all the files.

Jeff: I tested your program out of necessity. Normally I don't bring zip files to work because I can't use them on a Commodore. But I brought home a lot of zipped files for Star Extra that normally wouldn't fit on one disk. Your program worked well unzipping from my FD-4000 to a subdirectory in the hard drive.

Errol: I suspect this may become common to anyone that works with both Commodores & another platform (one with zip of course). Initially I expected the major use to be for users of offline mail, where most BBSs these days only compress with PKZIP2.04g. This seems to be the case presently, but I suspect it will change & shift towards other uses. Some BBSs & FTP sites may decide they can re-archive their zip1.xx or LZH files as ZIP2.xx to save space.

Jeff: Have you ever heard of LOADSTAR? What do people say about us in your world?

Errol: Yes I've heard of LOADSTAR many times, I know several people who say it's great to subscribe to, as it covers a broad range of things and always has something of interest to them.

Jeff: So you've heard of us, eh? Why aren't we linked to your page then? Hmm?

Errol: Umm, sorry sir, I'll fix that right away sir! ☺

Jeff: Here's something you might want to change:

If the zip file was archived with full pathname, your unzip uses the full path as a name. This results usually in getting the names of directories instead of programs. It also results in a lot of 63,file exists,00,00 errors

Errol: I've been expecting somebody to come up with this problem, though I was hoping it would be later rather than sooner! ☺ Hopefully I can come up with some way of stripping the paths from the filenames.

Jeff: I would just parse filenames from the Zip file from right to left up to sixteen characters or a \ character. That should do it. Of course if you really want to get fancy, you could just create the subdirectories with md:directory commands and then use the full path of the name, replacing the \s with /s and inserting the colon. ☺

You could also just add an R command so that the user can rename the files on the fly. Even if you don't fix the pathname problem, this would help.

Errol: I may do this. I was thinking of adding that option for files that already exist, so they can rename the output file, (and/or possibly an option to replace the existing file). I suppose being able to rename the file anyway is more flexible. Good idea. ☺

Jeff: I must admit that compression algorithms have always frustrated me. I start compression projects and never finish them. How difficult was it taking on a project that every other Commodore programmer has obviously avoided?

Errol: It was very difficult. I had to do a lot of research on how the "deflate" compression algorithm worked, before I even knew that a decompressor might be possible on a C-64. That was the main hurdle - deciding that it was actually not as 'impossible' as many had suggested. Also, rather than coding 'directly' on the C-64, I created my own program on the PC (using a high level language) to test my theories and develop working routines that could more easily be converted to 6502 assembler. This way I could test the output of my 6502 code against the PC's and this assisted greatly with debugging.

Jeff: On your web page, you mentioned that you might need extra memory in order to compress files 64-side. Have you considered virtual memory on disk? It could be slow for a C-64 user with a 1541 or fast for a SuperCPU user with a RAMLink or

SuperRAM. Do you think that we Commodore users should look into a standard for virtual memory like the Windows swap file?

Errol: It is a possibility, but virtual memory really needs to be implemented at the operating system level - preferably the hardware level - to be truly practical and to be any kind of 'standard'. Operating systems like Ace or Lunix may help with the O.S. side of things, but being able to write programs that transparently use normal or virtual memory will always be difficult due to the limitations of the 65xx architecture (e.g. the difficulty in making truly relocatable code). However I would love it if someone overcame these limitations, and we could easily create programs that used hundreds of kilobytes, maybe even several megabytes of memory.

Jeff: What are your plans for the future?

Errol: I'm studying a Diploma of Information Technology at TAFE (technical college), which I plan to complete then hopefully find a job that interests me. Commodore-wise, I'll continue work on Unzip64v2, and eventually I hope to work on creating zip archives. I have some other projects on the side as well, which I'll work on, depending on my mood.

Jeff: Is/are there some Commodore program(s) you wish some OTHER person would write for you? Why?

Errol: An ANSI C compiler - preferably one that produces very tight 6502 code. I can't see that happening in the near future though - I think we'll see a cross-compiler first, but even that would be great. It would open up our Commodores to a huge pool of existing code & utilities. Some said this would be the only way we'd get an unzip2.xx program on the Commodore, but they were wrong, weren't they? The other thing I would like to see is a PPP TCP/IP stack (along with programs to make use of it of course!). This may even have been done already, I know there have been some simple but working SLIP implementations.

1998 NTSC 4K Demo Competition

By Robin Harbron. Most of this article has been taken from the Driven magazine web site:
<http://www.driven.C-64.org>.

In late 1997, Driven magazine announced a follow-up to their

successful 1996 demo competition. Here are the rules, as announced:

-Deadline is 12 o'clock (noon), Thursday, January 22nd 1998. Individuals may submit one and only one entry into each event: -4k demo: 1 file only. Must be 4096 bytes or less after loading and before starting. Must be started by a BASIC "run" command. Demo will be viewed by judges for maximum of 6 minutes. -4k art: 1 file only. Must be 4096 bytes or less after loading and before starting. Must be started by a BASIC "run" command. Must display a static picture/logo/font or other image (no animations). Art will be viewed by judges for a maximum of 6 minutes. -4k music: 1 file only. Must be 4096 bytes or less after loading and before starting. Must be started by a BASIC "run" command. Judges will disable monitors while listening and will listen for a maximum of 6 minutes.

Special rules or situations: -All events will be judged using a standard NTSC C-64 with no cartridges/modems/printers attached. -An individual may only participate in only one entry per event. More than one person may work on a single entry (group entries are allowed). -No entries will be accepted that do not reach the organizers by noon on the deadline (January 22, 1998) -- no exceptions!

(The following words are from Elwix, editor of Driven magazine) The 1998 4k NTSC Compo Results:

First, I want to thank ALL the participants of the 2nd NTSC 4k Compo!

Second, I want to specifically thank the following:

- All JUDGES for doing a thoughtful and difficult task of heavily contemplating the entries and objectively evaluating each.

- Carcass, for showing up with an impressive 4 entries. That's how every NTSC group should respond!

- PSW and Style for respectable NTSC representation.

- Cosine for once more making a great effort in the compo, with 3 entries!

- All the other PAL entrants who felt like participating together in this unique worldwide event!

- Everyone else, again, for participating.

The Internet for Commodore C64/128 Users

2nd Edition

by Gaelyne R. Gasson

ISBN: 06-646-32207-9

The only Commodore C64/128 Internet reference guide, this 296 page manual takes you through hardware and software needed, how to get online and what you can do once you're there. It covers Email, World Wide Web, FTP, IRC, Telnet, Newsgroups, Commodore files, archives and much more.

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Also available from Loadstar. Item #900920

DEMOS

1. T.M.R/Cosine
2. Edhellon/Resource
3. The Wiz/Style
4. Suraklin
5. Todd Elliot
6. Highlander/Fairlight
- 0 Kungfushi **

** - This entry was delivered too late to be considered but we include it along with the other 4k entries - after all participation is the goal of the NTSC 4k Compo.

MUSIC

1. Necrophobic/Carcass
2. Zyron/F4CG/Oxid /Nostalgia
3. Odie/Cosine
4. da Blondie/Wish
5. Hoffmann/Carcass
6. Shroom/PSW
7. Fuzz/PSW

GRAPHICS

1. PK/Style
2. T.M.R/Cosine
3. Pinball Wizard/Carcass
4. Light/Omni
5. Wideload/Carcass

JUDGES

Judges consisted of the following people:

Coolhand: representing NTSC audience

- Count Zero: representing PAL technical Diskmaster: representing NTSC audience/technical
- Dokken: representing NTSC technical
- XmiKeX: representing NTSC audience/technical
- Zig: representing NTSC audience

The complete release pack containing all of the 1998 4K

Competition entries can be downloaded on the Internet at:

<http://nlaredo.globalpc.net/~coolhnd/driven/ntsc4k-2.lnx>

Note from Jeff: A lot of these entries will appear on Star Extra #5.

Net Etiquette

By Robin Harbron with a long foreword from Jeff Jones. I think Robin's indignation is important because the Commodore community suffers from the same terrible disease that the rest of the online community suffers from — *rudeness*! People online are *rude*. I don't mean they curse and speak out of turn. I mean normal everyday people become cowardly explosive monsters online.

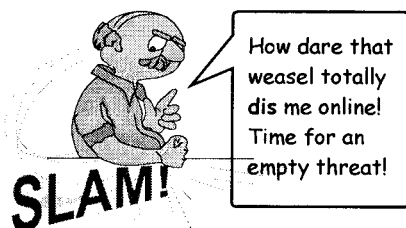
By "cowardly," I mean that these explosive surfers will fly off the handle when they feel in the least bit slighted — but they do it safely at their keyboards, not in person. They'll call names, threaten, and act in ways that might cause them to be punched in the nose were they acting that way in person.

I'm not talking about little snott-nosed kids, punk teens or buffed thugs in muscle shirts. I'm talking about 62-year-old farts who go to church on Sunday, PTA on Monday, and then turn into "NetSpark" (I made that up in case there is a real NetSpark) who curses and threatens like a drunk Navy Seal. I've been cursed by little kids as well as old women just for not speaking up fast enough. I've gotten hate mail because I didn't respond fast enough to Email.

The net is a great magnifier of idiocy, the new testosterone. It's the last frontier for the webslinger who moseys up to your inbox and asks threateningly "Are you talkin' t'me?"

Oddly enough, a lot of these seeming idiots will turn on a dime and apologize if you respond softly, as if you hadn't noticed their foot in their mouths. I have to admit though, I'll absorb about three abusive Emails before I either completely ignore the person or tell them off. Some of this venting has been between professional colleagues. The E in E-battle could stand for *ego* as much as it does *electronic*. The E-battle between JBEE and me is legendary. I have no idea what started it. He probably couldn't pinpoint it either. But it happened, and frankly I'm still upset about it because no matter how one-sided a war is, when it becomes public, both sides look petty.

Recently I had to tell a person who LOADSTAR deals with to stop sending me abusive Email. Since this was so-called business, I forwarded the mess to Fender and Judi, who immediately rasped both of us for even engaging in a battle. From my point of view, my admittedly long-winded point-by-point reply to a litany of



gripes was warranted. It was a cease and desist order. "Shut Up! Don't gripe at me. We're not married and I don't care what you think of my Email or its timeliness on a personal level." From the outside, it looked like we were arguing about nothing.

I've had a lot of hard feelings about unresolved idiocy. How normally when someone calls you a jerk, they cease writing you letters. With Email people act like nothing happened. I watch wars on Fidonet and comp.sys.cbm where profane names are called regularly and the debate goes right on. I won't participate in a public debate where my opponent is calling me names.

I'm not going to be so naive as to suggest that we should put a stop to this. Before that happens, people will stop tailgating and/or cutting you off on the highway. And, yes, I confess I will

**"THE NET IS A GREAT MAGNIFIER
OF IDIOCY, THE NEW
TESTOSTERONE."**

...JEFF JONES

raise a finger if you make me slam on my brakes so hard that my car turns sideways. Can't blame that on the net. Now on to Robin's adventure:

Robin: I was doing my daily reading of comp.sys.cbm, the most popular of Commodore 8-bit dedicated Usenet newsgroups, when I saw another typical, somewhat annoying post. An individual had violated long standing rules about what can and cannot be posted — he had posted a picture (a binary file, of course) to a text only discussion group. Now, the picture was Commodore related - but it's still not appropriate, at least in my opinion, and perhaps many others. At the same time, it's not a really big deal to me, but to some it is, as binaries are generally larger, and pictures are often of no use to someone using a Commodore to access the net, in a text only environment. Anyhow,

Cameron Kaiser wrote:

**DO NOT POST BINARIES TO
THIS GROUP!**

*If you have a picture to show, please either tell people where it can be found, or make it available via E-mail. The only official binaries group for *.cbm is comp.binaries.cbm -- binaries in any of the other *.cbm groups is against charter. You can also send them to alt.binaries.warez.cbm, but that is not maintained at all sites. In any case, don't post them here!*

In my opinion, this was a very reasonable post - perhaps Cameron is a bit militant about the whole thing, but he certainly wasn't rude, and I believe he is in the right with what he says. As is the case on the Internet, however, not all agree...

A person responded: *Yeah you tell him, you tight-assed git! Personally I enjoyed seeing a small picture of a*

piece of history. LOOSEN UP YOU ANALLY RETENTIVE BUTTMUNCHER!

Now, I find that a very offensive way to respond to anyone, ESPECIALLY someone who is both correct in his view (as far as the "laws of Usenet" go) and overall is a very helpful and active member of the Commodore Internet community. But I expect nothing less from some, unfortunately. Someone else responded: *Amen!! Where is the Charter he's talking about? Since when is this a moderated newsgroup!*

Note from Jeff: I have posted binaries into text-only groups and have gotten Email from watchdogs. All I felt was stupid and embarrassed, and I never did it again. I have no idea what Cameron's job is in the CBM area or what extra powers he has to control posting. It doesn't matter whether or not he can squelch all of my posts in the future. What matters is whether I'm a nuisance online. Are my posts causing someone else a problem, even if my feeble mind can't understand it?

When I posted a text only message to a binary group, Cameron Emailed me and I was embarrassed. I invited him to inform us all about the etiquette in the CBM binaries group, and he did. Increase the peace.

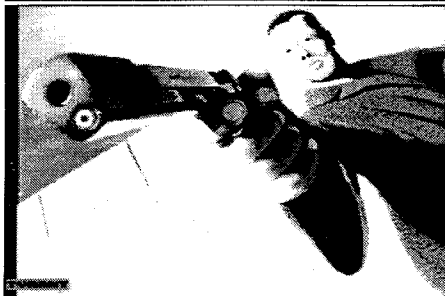
FLI In A Nutshell

By Robin Harbron. LOADSTAR #166 contains a program called VIDEO FLI'ER by Brian Ketterling, which is a graphics viewer for the C64 software video mode commonly called FLI. I had been wanting to do an article on FLI before, and this program and the accompanying text by Fender Tucker inspired me.

Fender raised a number of questions about how FLI works, and with all due respect, made a few statements that weren't completely accurate - I'll try and explain the basic idea. I've also analyzed the FLI display code in VIDEO FLI'ER, and will explain the re-sourced code below.

FLI is based upon regular multi-color bitmaps, like those produced by Koala Paint. It does not use hi-res bitmaps - FLI using hi-res bitmaps is traditionally called Advanced FLI, or AFLI. VIDEO FLI'ER does not display AFLI pictures.

Fender was correct in his



"Leon" by Tyrant/Therapy

assumption that FLI uses more than two color maps. In fact, it uses 9 color maps! One color map resides in color memory at \$d800. The remaining 8 color maps are rotated through on every scan line. So, the first color map is used for the first scan line, then the second color map for the second line and so on. Then on the 9th scan line, we swap back to the first color map again, and continue on for all 200 scan lines, using each map 25 times. Essentially, this means that instead of having 3 independent colors available in each 8x8 pixel square, and 1 background color shared by the entire picture, we now have 1 shared background color, 1 color independent to each 8x8 pixel square (the \$d800 color map), and 2 colors available for each 8 wide by 1 tall pixel unit!

There is a cost, of course - it's expensive in terms of memory (it uses all 16-kb available to the VIC) and in processor time (as the CPU is busy doing a lot of work in real-time to generate the display).

Hopefully, the only remaining question is "How? How do we make the VIC get new color information every single scanline, instead of every 8 as it normally does?" Answering this will require us getting into a discussion of "badlines", which I have touched upon in previous articles in LOADSTAR Letter #44 and #48. Badlines get their name from the fact that the CPU loses much of its processing time during a badline.



"Primal Rage" by Warp8/Flash, Incorporated

A badline occurs normally every 8th line. The VIC interrupts the CPU for 40 cycles and uses these extra cycles to grab the 40 pointers located in screen memory for the next 8 scan lines. Perhaps this will shed a little light on how simple the logic in the VIC II is - when the VIC is in character mode, the screen data (located at \$400/1024 by default) is simply a list of pointers into the character set data. When in bitmap mode, the screen memory is interpreted as color information for the same 8x8-pixel block.

Since color memory is reloaded every time a badline occurs, we have to force a badline every scan line for FLI. How does the VIC know when to



"Carietta" by Cybertech/Graffiti

perform a badline? It simply waits until the y smooth scroll bits (the low 3 bits of \$d011) are equal to the low three bits of the raster register (\$d012). Normally this would happen every 8th line, but by appropriately modifying \$d011, we can force badlines at will.

This, in a nutshell, is how FLI works - there are some very tricky nuances to the VIC that we won't get into, partially because I don't completely understand them myself.

Now, let's look at the source code to the main portion of VIDEO FLI'ER. I'll leave my comments underneath each section.

```
*= $c000
colormap = $3c00 ;$3c00 or $8000
```

All 4 of the FLI pictures on LS #166 loaded to \$3c00. FLI pictures are fairly standard, but I have seen some that load to \$4000. Here is the memory map for an FLI pic:

```
$3c00-$3fe7 * Color map to be
copied to $d800
$4000-$43e7 Color map 1
$43e8-$43ff unused
$4400-$47e7 Color map 2
$47e8-$47ff unused
```



"Swislain" by Electric/extend

```
... etc.
$6000-$7f3f multi-color
bitmap
```

* Sometimes this \$3c00-\$3fe7 information is located at the end of the FLI file instead, at \$8000.

```
lda #$7f
sta $dc0d
lda $dc0d
sei lda #1
sta $d019
sta $d01a
lda #$d8
sta $d016
lda #0
sta $d020
sta $d021
```

Disable CIA interrupts, make CPU ignore interrupts, clear raster interrupts and enable them, switch on multi-color mode and set screen border and background color to black.

```
ldx #0
copycol lda colormap,x
sta $d800,x
lda colormap+$0100,x
sta $d900,x
lda colormap+$0200,x
sta $da00,x
```



"L12" by Deekay/Crest



FLI and similar modes allow much more expressive work, as seen in Valsary/Samar/Lepsi Developments

```
lda colormap+$0300,x
sta $db00,x
inx
bne copycol
```

Copy the color map up to \$d800.

```
lda #<fliirq
sta $0314
lda #>fliirq
sta $0315
lda #$1b
sta $d011
lda #$32
sta $d012
```

Setup the raster interrupt to call the FLI routine on scanline \$32.

```
lda #$02
sta $dd00
lda #$fe
sta $dc00
cli
```

Set the VIC to look at graphics bank 1 (\$4000-\$7fff). Set the CIA #1 to scan row 1 of the keyboard matrix (see page 173 of Mapping the C64 for an excellent description). Allow interrupts. Begin displaying FLI.

```
wait lda $dc01
cmp #$fd
bne wait
```

Wait for enter to be pressed on the keyboard, while FLI code runs on interrupt.

```
sei
lda #$ea
sta $0315
lda #$31
sta $0314
lda #$97
sta $dd00
lda #$c8
sta $d016
lda #$1d
sta $d018
lda #$1b
sta $d011
lda #$81
```

```
sta $dc0d
lda #$00
sta $d019
sta $d01a
cli
rts
```

Quit viewing FLI picture, clean up, re-enable interrupts and exit. The following routine is the heart of the FLI viewer, which is run every frame:

```
fliirq nop
bit $00
bit $00
bit $00
bit $00
bit $00
```

Delay the processor for 17 cycles to allow proper timing for the VIC.

```
ldx #$1a
```

Do the following 25 times (There are 25 groups of 8 scanlines down the screen):

```
fli nop
nop
nop
```

6 cycles of delay, to allow the processor to "hit" the VIC at precisely the right moment to trigger the badline.

```
lda #$08
sta $d018
```

Tell the VIC that it will find color information at \$4000 and the bitmap at \$6000 by putting \$08 into \$d018. Page 145-146 of Mapping and pages 102-105 of the Programmer's Reference Guide describe this well.

```
lda #$3b
sta $d011
```

Force the badline by causing the low three bits of \$d011 to equal the low three bits of \$d012 (the first time though this loop we're on raster line \$33).

```
cmp ($00,x)
cmp $00,x
cmp $00
```

There are 65 cycles per scanline on our NTSC VICs. The badline used up 40 cycles, then the previous 2 code segments used 12 cycles, so we have 13 cycles remaining to waste. This segment of code does nothing

important except waste 13 cycles. You could substitute other instructions in here, as long as they don't take more than 6 bytes of memory, and they don't cause any writes to memory. If you were to use more than the 6 bytes of code to cause the delay, the loop would become too large to use a branch instruction, necessitating extra time-consuming instructions.

```
lda #$18
```

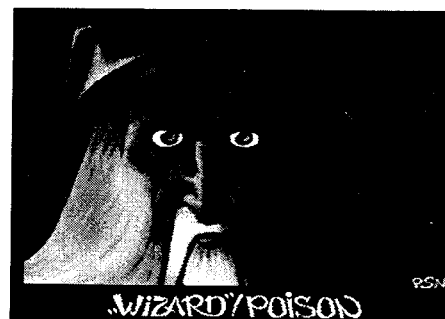


PVT/Reflex

```
sta $d018
inc $d011
cmp ($00,x)
cmp $00,x
cmp $00
```

This is very similar to the previous scanline's code, except we are now telling the VIC to fetch the second color map. Note also that Brian is just increasing \$d011 now that a correct value is stored in there. This seems to work fine. The only concern I have about it is that after increasing it 5 times we are causing bit 3 to wrap around to 0. A 0 in bit 3 of \$d011 causes the VIC to shrink the top/bottom borders so that only 24 lines are visible. This seems to have no effect on the display routine, however, and *does* save space over the way I'd normally do it (lda #\$3c : sta \$d011) so we'll say it's a good thing.

```
lda #$28
sta $d018
inc $d011
cmp ($00,x)
cmp $00,x
```



```
cmp $00
lda #$38
sta $d018
inc $d011
cmp ($00,x)
cmp $00,x
cmp $00
```

```
lda #$48
sta $d018
inc $d011
cmp ($00,x)
cmp $00,x
cmp $00
```

```
lda #$58
sta $d018
lda #$38
sta $d011
cmp ($00,x)
cmp $00,x
cmp $00
```

```
lda #$68
sta $d018
inc $d011
cmp ($00,x)
cmp $00,x
cmp $00
```

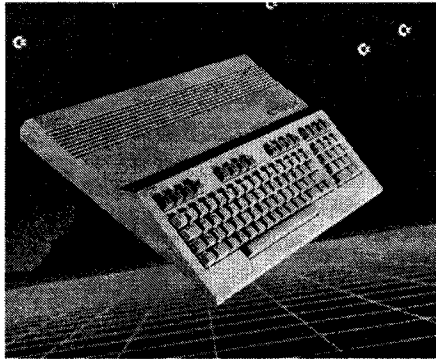
```
lda #$78
sta $d018
inc $d011
dex
bne fli
```

By this time we have displayed the first 8 scanlines of the FLI picture, and we will loop 24 more times to display the rest of the picture. Note that this is being done in real-time, and tying up a very high percentage of the processor time - approximately 77% according to my calculations. This is one of the reasons why you generally don't see FLI being used in games - but perhaps a SuperCPU-only game could make use of FLI, with all the extra processing power.

```
lda #$1b
sta $d011
inc $d019
jmp $ea81
```

In this final segment, after the 25 loops have completed, we reset \$d011 and also reset \$d019, so that another raster interrupt can happen next frame, to continue displaying the picture.

I find this aspect of the C64 fascinating - pushing the C64 to do what was never meant to be done. There are graphic modes designed now that go far beyond what FLI can do, but most of them are based upon the basic principles discussed here.



Commodore Repair Centers

From Jim Brain's Web Page.

LOADSTAR has gotten quite a few calls about repair facilities. Jim Brain to the rescue! This list is composed of information gleaned from articles in the USENET newsgroup comp.sys.cbm, the FidoNET echoes CBM and CBM-128, electronic mail messages, World Wide Web pages, and other mediums. The suppliers listed are assumed to be operating, but none have been confirmed.

A & M Computer Repair
24 Colonel Conklin
Stony Point, NY 10980
(800) 344-4102 (Orders and Information)
(914) 947-3522 (Orders and Information)
Authorized service center for Commodore and Amiga computers and drives. Free estimates, flat-rate repairs for most units, and 24-hour turnaround.

ABO Technology
2237 E. Broadway
Tucson, AZ 95719
(520) 884-7260 (Orders and Information)
(520) 884-7138 (Facsimile)
C64/128 service, software, parts and manuals. Also handles Amiga, Apple, IBM and Mac.

ACS Computer and Video Incorporated
5344 Jimmy Carter Blvd.
Norcross, GA 30093
(800) 962-4489 (Orders)
(770) 263-9190 (Information)
(770) 263-7852 (Facsimile)
C64/C128 sales and service.

ACU TV Repair
10911 Lorain Ave.
Cleveland, OH 44111
(216) 941-8884 (Orders and Information)
Repairs on Commodore computers, disk drives and monitors. Installation of JiffyDOS is also available.

Aktiva International
P.O. Box 27832
Santa Ana, CA 92799
(714) 962-5136 (Orders, Information, and Facsimile)
Keyskin Keyboard Protectors. Keeps spills out. \$17.95
Also available: repairs, key switches for keyboards, ICs, power supplies, high speed modems, printers, etc.

Albany Microcomputer Services
12553 San Pablo Ave.
Richmond, CA 94805
(510) 235-5935 (Orders and Information)
Repairs of Commodore computers and drives.

BCE Inc./Commodore Connection
c/o Jim Bethereum
13914 E. Radcliff Pl.
Aurora, CO 80015
(303) 693-4038 (Orders and Information)
Repairs on Commodore and other computes & peripherals.

Electronic Technical Service
4022 Bardstown Rd.
Louisville, KY 40217
(502) 499-2341 (Orders and Information)

lhooker1@juno.com (Internet Contact)
Parts and service for Commodore, Amiga, and IBM computers.

Icontronics
2511 Evergreen Ave.
Baltimore, MD 21214
(410) 426-5176 (Orders and Information)
Over 100,000 parts for Commodore, Amiga, Apple, Atari and IBMs.

Bob Jonquet's Repair
429 S. Westlawn
Decatur IL 62521
(217) 423-5700 (Orders and Information)
after 2pm, CST
73336.275@CompuServe.com (Internet Contact)
http://ourworld.compuserve.com/homepages/jim_haws/jonquets.htm (WWW URL)
Authorized repairman of Commodore computers since the mid-1980s. Also carries some used, new and reconditioned hardware.

Legendary Design Technologies, Inc.
515 Park Road North #9
Brantford, Ontario N3R 7K8
CANADA
(519) 753-6120 (Orders and Information)
(519) 753-5052 (Facsimile)
9-5 Mon-Fri, EST
legend@io.org (Internet Contact)
http://www.io.org/~legend/ (WWW URL)
C64/C128 repairs and software. Also sells and develops Amiga hardware and software.

Microfix
3535 W. Pioneer Parkway
Arlington, TX 76013
(817) 261-9615 (Orders and Information)
Repairs of C64s, C128s and PETs.

A&M Computer Repair
24 Conklin Drive
Stoney Point, NY 10980
(800) 344-4102 (Orders)
(914) 562-7271 (Information)
Fixed repair prices are very low, C64 C128 etc!!

Accurate Data Services
North 1414 Fiske
Spokane, WA 99202
(509) 535-0590 (Orders and Information)

Bear Technologies
1005 McKean Street
Philadelphia, PA 19148
(800) 755-5295 (Orders and Information)
(215) 336-5295 (Orders and Information)
BearTech@aol.com (Internet Contact)
http://members.aol.com/beatrec/beatrec.html (WWW URL)
Flat-rate repairs for Commodore computers and drives. Repairs IBM clones, Genesis and Nintendo. Also available: C64/128 hardware, software, monitors, and ICs, Amigas and IBMs, as available.

Capestany Computer Repair
P.O. Box 733
Seabrook, TX 77586-0733
(713) 554-5913 (Orders and Information)
Philip Capestany (Contact)
Commodore computer and drive repairs. Also has some C64s, C128s, Plus/4s, 1541s, 1571s, printers and power supplies.

Center for Commodore and Amiga
(310) 595-0899 (Orders and Information)
(310) 424-7813 (Facsimile)
pcs4@ix.netcom.com (Internet Contact)
Repairs and parts for Commodore 8-bit line.
Open Mon-Sat 9:30 AM to 5:30 PM (Pacific Standard Time)

Commodore Country
1420 Country Road 914
Burleson, TX 76028
(817) 295-7658 (Information and Orders)
(817) 477 9674 (Facsimile)
ccountry@fastlane.net (Internet Contact)
http://www.fastlane.net/homepages/ccountry/ (WWW URL)
Hours: M, W, Th 10-6, Fri-Sat 10-6, CST

Closed on Sunday and Tuesday
Provide Commodore and Amiga sales and service, and carry new and used software for the C64, C128, and Amiga lines. Catalog available for \$2.95

Commodore Connection
P.O. Box 1468
1118 Old Stage Rd.
Fallbrook, CA 92028
(760) 731-0924 (Orders and Information)

Provide Commodore and Amiga sales and service, and carry new and used software for the C64, C128, and Amiga lines.

Computer Advantage
Des Moines, IA 50315
(515)-256-0935 (Information and Orders)
izombie@netins.net (Internet Contact)
Home Based Repair Business. Appointment Only.
Repair CBM equipment.

Computer Bargain Store
(Reid Swenson, President.)
3366 South 2300 East
Salt Lake City, Utah 84109
(801) 466-8084 (Orders and Information)
(801) 486-9128 (Facsimile)
slick_rk@xmission.com (Contact)

Computer House
160 King Street West
Chatham, Ontario, N7M 1E3
Canada
(519) 351-9866 (Information, Friday & Saturday 12-6pm)
(519) 354-7950 (Facsimile, any time)
buys, sells & repairs Commodore hardware & software

The Computer Nut
2400 Mountain Drive
(Shades Mountain Plaza)
Birmingham, AL 35226

Computer Repair And Maintenance (C-RAM)
1350 Clay Avenue
Ventura, CA 93004-2835
(805) 647-7779 (Information, Facsimile, and Orders)
(805) 647-2848 (Information, Facsimile, and Orders)
Wally Wolf (Contact)
drizzt@vcol.net (Internet Contact)

Computer Shoppe of Alabama
310 Second Avenue Northwest
Suite C
Cullman, AL 35055
(205) 739-0040

Computer Technologies
121 North Ridgewood Avenue, Suite A
Datura Beach, FL 32114
(800) 237-2835 (Information)
Standard C64/128 repairs.

Computer U.S.E.R.S.
5140 Franklin Blvd.
Eugene, OR 97403
(541) 726-8500 (Orders and Information)
1-5pm Mon-Fri

Mailing Address:

86313 Franklin Blvd
Eugene, OR 97405
Commodore Software and Repairs

COMPUTERSMITH
RR#1 (Hwy 552 E), Goulais River
Ontario, Canada P0S 1E0
(705) 649-1251 (Facsimile) (In use at night)
(705) 256-0225 (Cellular Phone)
compsmith@age.net (Internet Contact)
http://www.onlink.net/community/compsmith.html (WWW)
info@compsmith.soonet.ca (Price List)
custserv@compsmith.soonet.ca (Customer Service)
Service both CBM and Amiga computers.

Craig's Computer Repair and Services
P.O. Box 3009
Salisbury MD 21802-3009
(410) 742-9072 (Facsimile)
craig.reinke@mci2000.com (Internet Contact)

Creative Micro Designs, Incorporated. (CMD)
15 Benton Drive
P.O. Box 646
East Longmeadow, MA 01028-0646
(800) 638-3263 (Orders only)
(413) 525-0023 (Information)
(413) 525-0147 (Facsimile)
cmd-doug@genie.geis.com (Contact)
CMD repairs most Commodore hardware.

DVS Direct
69 Beaver Drive
DuBois PA, 15801
(814) 371 5640 (Orders and Information)
(814) 371 2033 (Facsimile)
Large assortment of Commodore parts
Commodore Repair Service

ECX Computer & Electronic Services
2678 N. Main St.
Walnut Creek, CA 94596
(510) 944-9277 (Orders and Information)
Commodore sales and service. Also carries the "BABBA" magazine.

Engineering Consulting
583 Candlewood Street
Brea, CA 92621
Robert Blumenkranz (Contact)
radiobob@earthlink.net (Contact)
http://www.earthlink.net/users/engcon/webdocs/
Refurbishes C64s and 1541s.

Gordy Wilson's Keyboard Studio
304 North Maple Suite #203
Urbana, IL 61801
(800) 821-1197 (Orders and Information)
(217) 328-3975 (Orders and Information)
(217) 328-3983 (Facsimile)
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http://www.keyboardstudio.com/ (WWW URL)
Commodore service and support since 1983, primarily dealing in board-level repair and upgrades. New and refurb hardware and peripherals available for the C64/128, Amiga, Apple II and Mac. Systems integration, upgrades and software for all machines.

Handy Hams System Care of Courage Center
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Golden Valley, MN 55422
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Harvey and Associates
1409 Mill Street
Laramie, WY 82070
(307) 742-3275 (Information)
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Repairs and service. Inexpensive.

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(248) 685-0692 (Information and Orders)
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ardmore855@delphi.com (Internet Contact)
Susan Sackett (Contact)
susansackett@delphi.com (Internet Contact)
Ron Bryant (Contact)
ronbryant@delphi.com (Internet Contact)
http://www.provide.net/~ihc/ (WWW URL)
A combined venture with Squeaky Sam's Electronic Flea Market that provides hardware and software for Commodore computers.

Inner Circle Systems
John Pinson
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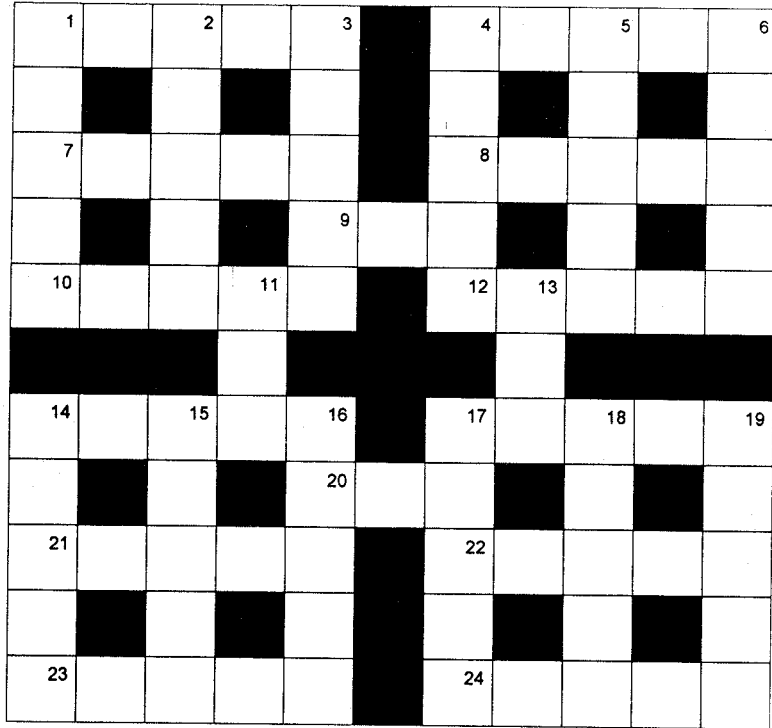
KNEES' CRYPTIC #1

ACROSS

1. Machine heads back to carousal (5)
4. Burn logo (5)
7. Hairs head west - become sick chip (5)
8. "Ol' Red" somehow gets on in years (5)
9. Do wrong by dropping \$1000 from Carol (3)
10. That woman alien is as white as this! (5)
12. Thickheaded lions' caves -- empty (5)
14. Novel DTPublishing reveals African plain (5)
17. Inn spotted from racy train (5)
20. Digger is N. Vietnamese uncle, I hear (3)
21. Printer ink sound right? (5)
22. Goal is armed poorly (5)
23. Hamstring is new, unfortunately (5)
24. Go into, find, then terminate (5)

DOWN

1. Almost sets down shoestrings (5)
2. Spigot spotted in festival venue (5)
3. So, split up into rat meat dish (5)
4. Light-haired man gets into cab, London-style (5)
5. Attachment made from spotwear (3-2)
6. Crumbling ridge inspires funeral song (5)
11. Half of an ubiquitous finisher? (3)
13. Brand new Geo has vanity sign (3)
14. Ballots lost in faulty stove (5)
15. Cloth weaved by corrupt Marxist leader (5)
16. Reportedly done flung (5)
17. Beat about a bush? (5)
18. Lagniappe ending for "tricker"? (5)
19. Less steady demo flake (5)



(1) Anagram -- the word is jumbled. There will always be a tip-off word like "broken" or "strange" to indicate that part of the clue is to be unscrambled.

Ex. Weird side gives up the ghost -- DIES is an anagram of SIDE

(2) Charade -- the word is broken into parts, often at unexpected places, and each part is defined in the clue.

Ex. Swamp the German editor! -- FEN (swamp) + DER ("the" in German)

(3) Reversal - the word is read backwards (or upwards in a vertical word).

Ex. Orion left rats. STAR is RATS backwards (left).

(4) Hidden word -- the word is actually found in the clue, but disguised.

Ex. Cowmeat sought in Kobe effect. BEEF found in "KoBE Effect"

(5) Homophone -- the word sounds like the whatever is implied in the clue. There will be a tip-off phrase like "I hear" or "reportedly".

Ex. Remove the skin from the reported bell sound. PEEL or PEAL.

(6) Double Definition -- the word is defined twice.

Ex. Ante stick. STAKE is an ante and a stick.

Answers in next month's LOADSTAR Letter.

How to Solve Knees' Cryptics

Cryptic crosswords are like regular crosswords except there are fewer words and the clues are more puzzling. Instead of simply being a synonym or definition of the word in the puzzle, a cryptic clue is a clever bit of wordplay that follows certain rules. The clue either begins or ends with a more or less straight definition of the word. The definition will NOT be found in the middle of a clue. The rest of a clue will be one (or more) of the following types of wordplay:

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**Words of
wisdom from
the most
fiery woman
on talk radio,
Dr. Laura**

**Slessinger. Visit her official website for
more!**

By Jeff Jones. I confess! I listen to Dr. Laura on the radio almost daily. She's a bit quick to fly off the handle, and perhaps too moral, but she knows her stuff. If you like her, too, then give her website a visit. Here are some tidbits from her show.

- You guys on the white horses keep trying to save women in distress, not realizing you just end up with a distressed woman.
- Because you're able to do it and because you have the right to do it, doesn't mean it's right to do it.
- The more something becomes familiar, the more it seems to be okay. The more you steal quarters, the more it seems okay to steal. So the more familiar we get with inappropriate behaviors, the more we tend to start thinking of them as normal and okay.
- Birds don't lay eggs on tree limbs. They lay them in nests. Women - take a note!
- Don't try it. Do it. There's a difference between trying. Trying implies you're going to see if something will change everything. And change takes place very slowly.
- Kids are not things you can just put aside like a book and pick it up later.
- You cannot build a house full of steel windows because you're afraid of dust. Because then you don't see the blue sky, the clouds. You don't see the sun. You don't hear birds chirping. And that's what happens when you're overprotective. Life becomes stifled for fear of something bad.

- Just like yogurt, you know, there are microbes in there. That's a yucky thought. We don't like to think we're eating microbes. Bacteria? That's disgusting. But that's the means to get to the yogurt. So your grandchild is the yogurt and your errant daughter is the bacteria.
- Not everybody who puts the shawl upon his shoulders has the shoulders for the shawl.
- I know this is scary. But you've got to let go of one end of the pool if you're going to paddle to the other side.
- A long time ago, when I made the comment that if you cannot afford to be there and take care of your children, you ought not have them, I got righteously attacked for that. And I came back with, let me understand something. If you can't afford two cars, who lets you take the second one home? Somehow the concept when it's an inanimate object is better understood than when it's a human being.

PROUD TO BE HUMAN

With a Little Help from Our Friends! Police in Oakland, California spent two hours attempting to subdue a gunman who had barricaded himself inside his home. After firing ten tear gas canisters, officers discovered that the man was standing beside them, shouting to please come out and give himself up...

And These Nitwits Are Teaching Our Children?!! A 9-year-old boy in Manassas, Virginia received a one-day suspension under his elementary school's drug policy last week - for Certs! Joey Hoeffler allegedly told a classmate that the mints would make him "jump higher." And a student in Belle, West Virginia was suspended for three days for giving a classmate a cough drop. School principal Forest Mann reiterated the school's "zero-tolerance" policy...not to be confused with the "zero-intelligence" policy...

The Getaway A man walked in to a Topeka, Kansas Kwik Shop, and asked for all the money in the cash drawer. Apparently, the take was too small, so he tied up the store clerk and worked the counter himself for three hours until police showed up and grabbed him.

Do-it-Yourself Brain Surgery?! In Ohio, an unidentified man in his late twenties walked into a police

station with a 9-inch wire protruding from his forehead and calmly asked officers to give him an X-ray to help him find his brain, which he claimed had been stolen. Police were shocked to learn that the man had drilled a 6-inch deep hole in his skull with a Black & Decker power drill and had stuck the wire in to try and find the missing brain.

Have I Got A Deal for You! More than 600 people in Italy wanted to ride in a spaceship badly enough to pay \$10,000 a piece for the first tourist flight to Mars. According to the Italian police, the would-be space travelers were told to spend their "next vacation on Mars, amid the splendors of ruined temples and painted deserts. Ride a Martian camel from oasis to oasis and enjoy the incredible Martian sunsets. Explore mysterious canals and marvel at the views. Trips to the moon also available." Authorities believe that the con men running this scam made off with over six million dollars...

Did I Say That?! Police in Los Angeles had good luck with a robbery suspect who just couldn't control himself during a lineup. When detectives asked each man in the lineup to repeat the words, "Give me all your money or I'll shoot," the man shouted, "That's not what I said!"

Ouch, That Smarts! A bank robber in Virginia Beach got a nasty surprise when a dye pack designed to mark stolen money exploded in his Fruit-of-the-Looms. The robber apparently stuffed the loot down the front of his pants as he was running out the door. "He was seen hopping and jumping around," said police spokesman Mike Carey, "with an explosion taking place inside his pants." Police have the man's charred trousers in custody...

Are We Not Communicating? A man spoke frantically into the phone: "My wife is pregnant and her contractions are only two minutes apart!" "Is this her first child?" the doctor asked. "No, you idiot!" the man shouted. "This is her husband!"

Not the Sharpest Knife in the Drawer! In Modesto, CA, Steven Richard King was arrested for trying to hold up a Bank of America branch without a weapon. King used a thumb and a finger to simulate a gun, but unfortunately, he failed to keep his hand in his pocket.

LOADSTAR LETTER #56

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